

Work Order ID 157211

157211

Page 1

Tuesday, February 21, 2017 7:49:12 AM

Item ID: D3407-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Stem
Start Date: 2/21/2017 **3/29** Start Qty: 20.00 ***20*** Cust Item ID:
Required Date: 3/1/2017 Req'd Qty: 20.00 ***20*** Customer:
Reference:

Approvals: Process Plan: **DAS** Date: **FEB 21 2017** Tooling: Date: Run Start ***NR1***
QC: **21** Date: SPC (Y/N): Date: Stop ***NR2***
9-89

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3407	Rev E								
100	DOOSAN LATHE	0.00							
100									
Doosan	Memo	0.57							
Doosan Lathe	1-Turn as per Folio FA596 Rev: 11A & Dwg D3407 Rev: E Mill slot width at max tolerance .260"								
	2-Deburr								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
110									
QC	Memo	0.07							
Quality Control									
120	QC8- Inspect parts - second check	0.00							
120									
QC	Memo	0.07							
Quality Control									

20 **217-3-27**

20 **217-3-27**

20 **17/03/28**
9-89 **17-03-28**

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER :					

Work Order ID 157211***157211***

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Tuesday, February 21, 2017 7:49:12 AM

Item ID: D3407-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Stem

Start Date: 2/21/2017 Start Qty: 20.00

20

Cust Item ID:

Required Date: 3/1/2017 Req'd Qty: 20.00

20

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

Identify as per dwg & Stock Location: WA001

0.00

130

Packaging

Memo

0.33

Packaging

LOCATION: WA001

(20)

OK

17/03/29

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.03

Quality Control

17/3/30

DAS
21
9-89

MAR 29 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____																							
Misidentified ☐	Past Due ☐																								

Picklist Print

Tuesday, February 21, 2017 7:49:16 AM

Page 1

Work Order ID: 157211

157211

Parent Item: D3407-1

D3407-1

Parent Item Name: Stem

Start Date: 2/21/2017

Required Date: 3/1/2017

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP Rev:A05.10.18New issueKJ/EC
IPP Rev:B Now on Doosan 08-05-14 JLM Verified By:DD
IPP Rev:C 08-08-12 revE as per dwg (ecn 08-507) DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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M174R0.750

Purchased

No

100

f

33.6121

0.459

9.663158

M174R0 750

17-4 round bar .750

SL 17-3-27

Location

Loc Qty

Loc Code

MAT

33.6121

m133265

0.0001

m135232

5.345

m135559 -

4.167

m136200

9.9

m136697

14.2

4.167

5.2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
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Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								

DART AEROSPACE LTD		Work Order: 157211
Description: Tow Ring		Part Number: D3407-1
Inspection Dwg: D3407	Rev: E	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

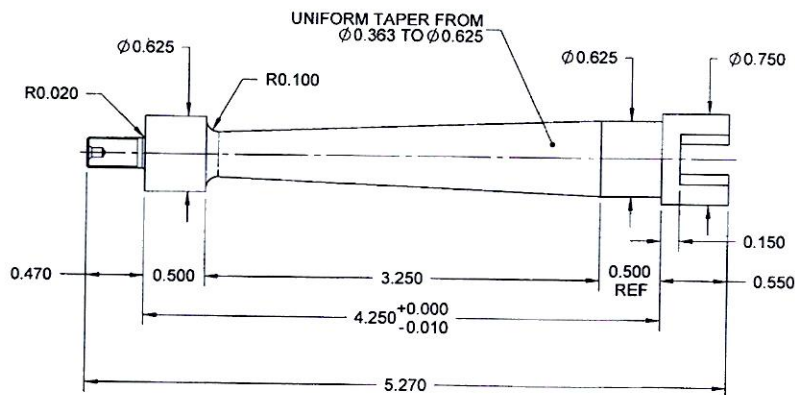
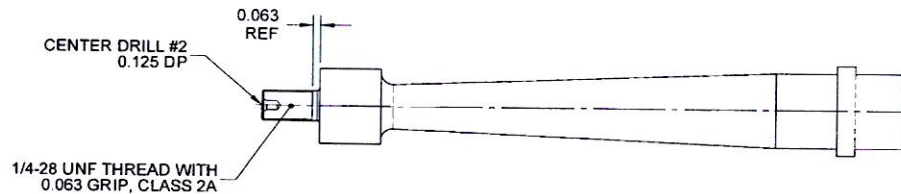
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.063	+/-0.010	.063	✓			
1/4-28 UNF	Max: 0.2668 Min: 0.2635	.265	✓			
Major Ø	Max: 0.249 Min: 0.2425	.246	✓			
Ø0.625	+/-0.010	.625	✓			
Ø0.363	+/-0.010	.362	✓			
Ø0.750	+/-0.010	.749	✓			
R0.100	+/-0.010	R.100	✓			
0.470	+/-0.010	.470	✓			
0.500	+/-0.010	.501	✓			
3.250	+/-0.010	3.255	✓			
4.250	+0.000/-0.010	4.245	✓			
5.270	+/-0.010	5.270	✓			
0.150	+/-0.010	.153	✓			
0.550	+/-0.010	.553	✓			
0.625	+/-0.010	.626	✓			
0.250	+0.010/-0.000	.259	✓			

Measured by: JL
Date: 17-3-27

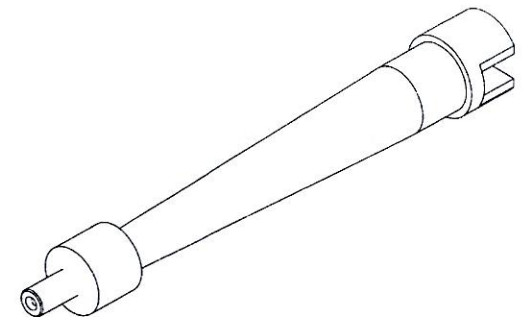
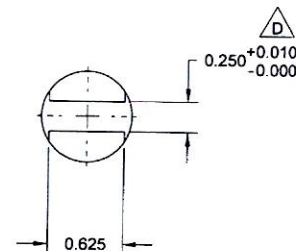
Audited by: P/942
Date: 17-03-28

Prototype Approval:	N/A
Date:	N/A

Rev	Date	Change	Revised by	Approved
A	06.09.19	New Issue	KJ/JLM	
B	07.07.18	Tolerances for diameters updated per Machinists	KJ/JLM	
C	08.05.14	Dimensions updated per Dwg Rev D	KJ/JLM	
D	08.10.07	Dimensions updated per Dwg Rev E	KJ/DD	



D3407-1 STEM



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 157211 MCL
17-02-21

RELEASED
08-07-23

- NOTES:
- 1) MATERIAL: 17-4 PH SS ROUND BAR PER AMS 5643 (REF. DART SPEC M17-4-R)
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: MACHINE ALL INSIDE EDGES WITH A 0.010 RADIUS
 - 6) IDENTIFICATION: N/A
 - 7) WEIGHT: 0.33 lbs

DESIGN	JP	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWN	JP		
CHECKED	JP	DRAWING NO.	REV. E
MFG. APPR.	JP	D3407	SHEET 2 OF 5
APPROVED	JP	TITLE	SCALE
DE APPR.	JP	TOW RING	NTS
DATE	08.07.23	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	